

## Engineering Interpretations

### **Water Management**

Interpretations of soils for water management are given as limitations for pond reservoir areas; embankments, dikes, and levees; excavated pond (aquifer-fed); and as restrictive features that affect drainage, irrigation, terraces and diversions, and grassed waterways.

**POND RESERVOIR AREA** is the area that holds water behind a dam or embankment. Soils best suited to this use have a low seepage potential, which is determined by the permeability and depth to fractured or permeable bedrock, or other permeable material.

**EMBANKMENTS, DIKES, AND LEVEES** are raised structures of soil material constructed to impound water or protect land against overflow. They generally are less than 20 feet high and are constructed of "homogeneous" soil material (without a core zone) and compacted to medium density.

**EXCAVATED PONDS (AQUIFER-FED)** are bodies of water created by excavating a pit or dugout into a ground-water aquifer. Excluded are ponds which are fed by surface runoff or that have embankments that impound water 3 feet or more above the original surface.

**DRAINAGE** is the process of removing excess surface and subsurface water from agricultural land. Soil features are listed that affect grading, excavation, and stability of trench sides or ditch banks. Features are also listed which might affect productivity after drainage is installed. The availability of drainage outlets must also be considered.

**IRRIGATION** is the controlled application of water to supplement rainfall for supporting plant growth. Soil features are listed that affect design, layout, construction, management, or performance of an irrigation system.

**TERRACES AND DIVERSIONS** are embankments or a combination of an embankment and a channel constructed across a slope to control erosion by diverting or storing surface runoff instead of permitting it to flow uninterrupted down the slope. Soil features are listed that affect the construction of terraces and diversions and that may cause problems after construction.

**GRASSED WATERWAYS** are natural or constructed channels that generally are broad and shallow and are covered with erosion-resistant grasses. They are used to conduct surface water to outlets at a nonerosive velocity. Soil features are listed that affect the construction and maintenance of the waterway, and also that affect the growth of grass after construction.

*This subsection includes:*

- **(a) Water Management**

Newton County, Missouri: Detailed Soil Map Legend

Water Management

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Map symbol and soil name	Pond reservoir areas		Drainage		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1B: Newtonia-----	Moderately limited ~seepage (moderately limited)	0.50	Not limited		Moderately limited ~erodes easily (moderately limited)	0.60	Moderately limited ~erodes easily (moderately limited)	0.60	Moderately limited ~erodes easily (moderately limited)	0.60
2B: Wanda-----	Moderately limited ~seepage (moderately limited) ~slope (slightly limited)	0.50 0.20	Limited ~slope (limited)	0.78	Limited ~slope (limited)	0.78	Slightly limited ~slope (slightly limited)	0.20	Slightly limited ~slope (slightly limited)	0.20
3C: Eldorado-----	Moderately limited ~seepage (moderately limited) ~slope (moderately limited)	0.50 0.30	Limited ~slope (limited) ~large stones (limited)	0.98 0.75	Limited ~slope (limited) ~droughty (slightly limited) ~large stones (slightly limited)	0.98 0.15 0.01	Very limited ~large stones (very limited) ~slope (moderately limited)	1.00 0.30	Very limited ~large stones (very limited) ~slope (moderately limited) ~droughty (slightly limited)	1.00 0.30 0.15
6B: Crelton-----	Moderately limited ~seepage (moderately limited)	0.50	Slightly limited ~percs slowly (slightly limited)	0.13	Slightly limited ~percs slowly (slightly limited)	0.13	Moderately limited ~wetness (moderately limited)	0.36	Limited ~rooting depth (limited) ~wetness (moderately limited)	0.80 0.36
8B: Captina-----	Moderately limited ~seepage (moderately limited)	0.50	Not limited		Moderately limited ~erodes easily (moderately limited)	0.60	Moderately limited ~erodes easily (moderately limited) ~wetness (slightly limited)	0.60 0.28	Limited ~rooting depth (limited) ~erodes easily (moderately limited) ~wetness (slightly limited)	0.80 0.60 0.28

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	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9B: Needleye-----	Moderately limited ~seepage (moderately limited)	0.50	Slightly limited ~percs slowly (slightly limited)	0.13	Moderately limited ~erodes easily (moderately limited) ~percs slowly (slightly limited)	0.60 0.13	Moderately limited ~erodes easily (moderately limited) ~wetness (moderately limited)	0.60 0.36	Limited ~rooting depth (limited) ~erodes easily (moderately limited) ~wetness (moderately limited)	0.80 0.60 0.36
10: Bado-----	Moderately limited ~seepage (moderately limited)	0.50	Moderately limited ~percs slowly (moderately limited)	0.39	Moderately limited ~erodes easily (moderately limited) ~percs slowly (moderately limited)	0.60 0.39	Limited ~wetness (limited) ~erodes easily (moderately limited)	0.99 0.60	Limited ~wetness (limited) ~erodes easily (moderately limited)	0.99 0.60
21B: Claiborne-----	Moderately limited ~seepage (moderately limited) ~slope (slightly limited)	0.50 0.10	Moderately limited ~slope (moderately limited)	0.40	Moderately limited ~erodes easily (moderately limited) ~slope (moderately limited)	0.60 0.40	Moderately limited ~erodes easily (moderately limited) ~slope (slightly limited)	0.60 0.10	Moderately limited ~erodes easily (moderately limited) ~slope (slightly limited)	0.60 0.10
Peridge-----	Moderately limited ~seepage (moderately limited)	0.50	Slightly limited ~slope (slightly limited)	0.10	Moderately limited ~erodes easily (moderately limited) ~slope (slightly limited)	0.60 0.10	Moderately limited ~erodes easily (moderately limited)	0.60	Moderately limited ~erodes easily (moderately limited)	0.60
23B: Bolivar-----	Limited ~depth to bedrock (limited) ~seepage (moderately limited) ~slope (slightly limited)	0.85 0.50 0.10	Moderately limited ~slope (moderately limited) ~depth to bedrock (slightly limited)	0.40 0.29	Moderately limited ~slope (moderately limited) ~depth to bedrock (slightly limited)	0.40 0.29	Very limited ~depth to bedrock (very limited) ~slope (slightly limited)	1.00 0.10	Limited ~depth to bedrock (limited) ~slope (slightly limited)	0.85 0.10

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	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
25: Gerald-----	Moderately limited ~seepage (moderately limited)	0.50	Moderately limited ~percs slowly (moderately limited)	0.39	Moderately limited ~erodes easily (moderately limited) ~percs slowly (moderately limited)	0.60 0.39	Moderately limited ~erodes easily (moderately limited) ~wetness (moderately limited)	0.60 0.60	Moderately limited ~erodes easily (moderately limited) ~wetness (moderately limited)	0.60 0.60
26: Carytown-----	Not limited		Very limited ~percs slowly (very limited) ~excess sodium (limited)	1.00 0.96	Very limited ~percs slowly (very limited) ~excess sodium (limited) ~erodes easily (moderately limited)	1.00 0.96 0.60	Very limited ~wetness (very limited) ~erodes easily (moderately limited)	1.00 0.60	Very limited ~wetness (very limited) ~excess sodium (limited) ~erodes easily (moderately limited)	1.00 0.96 0.60
27C: Bolivar-----	Limited ~depth to bedrock (limited) ~seepage (moderately limited) ~slope (moderately limited)	0.85 0.50 0.30	Very limited ~large stones (very limited) ~slope (limited) ~depth to bedrock (slightly limited)	1.00 0.98 0.29	Limited ~slope (limited) ~large stones (limited) ~droughty (moderately limited)	0.98 0.73 0.36	Very limited ~depth to bedrock (very limited) ~large stones (very limited) ~slope (moderately limited)	1.00 1.00 0.30	Very limited ~large stones (very limited) ~depth to bedrock (limited) ~droughty (moderately limited)	1.00 0.85 0.36
30C: Keeno-----	Moderately limited ~seepage (moderately limited) ~slope (moderately limited)	0.50 0.30	Limited ~slope (limited) ~large stones (limited)	0.98 0.65	Limited ~slope (limited) ~droughty (limited) ~large stones (slightly limited)	0.98 0.75 0.01	Very limited ~large stones (very limited) ~wetness (moderately limited) ~slope (moderately limited)	1.00 0.44 0.30	Very limited ~large stones (very limited) ~rooting depth (limited) ~droughty (limited)	1.00 0.80 0.75

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	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
35E: Nixa-----	Limited ~slope (limited) ~seepage (moderately limited)	0.70  0.50	Very limited ~percs slowly (very limited) ~slope (very limited)	1.00  1.00	Very limited ~percs slowly (very limited) ~slope (very limited) ~droughty (limited)	1.00  1.00  0.65	Limited ~slope (limited) ~large stones (moderately limited)	0.70  0.38	Limited ~rooting depth (limited) ~slope (limited) ~droughty (limited)	0.80  0.70  0.65
Clarksville----	Very limited ~seepage (very limited) ~slope (very limited)	1.00  1.00	Very limited ~slope (very limited) ~large stones (slightly limited)	1.00  0.18	Very limited ~slope (very limited) ~droughty (slightly limited)	1.00  0.13	Very limited ~slope (very limited) ~large stones (moderately limited)	1.00  0.59	Very limited ~slope (very limited) ~large stones (moderately limited) ~droughty (slightly limited)	1.00  0.59  0.13
44G: Rock outcrop---	Not rated		Not rated		Not rated		Not rated		Not rated	
Clarksville----	Very limited ~seepage (very limited) ~slope (very limited)	1.00  1.00	Very limited ~slope (very limited) ~large stones (slightly limited)	1.00  0.18	Very limited ~slope (very limited) ~droughty (slightly limited)	1.00  0.08	Very limited ~slope (very limited) ~large stones (moderately limited)	1.00  0.59	Very limited ~slope (very limited) ~large stones (moderately limited) ~droughty (slightly limited)	1.00  0.59  0.08
45F: Clarksville----	Very limited ~slope (very limited) ~seepage (very limited)	1.00  1.00	Very limited ~slope (very limited) ~large stones (slightly limited)	1.00  0.18	Very limited ~slope (very limited) ~droughty (slightly limited)	1.00  0.04	Very limited ~slope (very limited) ~large stones (moderately limited)	1.00  0.59	Very limited ~slope (very limited) ~large stones (moderately limited) ~droughty (slightly limited)	1.00  0.59  0.04

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	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
50C: Nixa-----	Moderately limited ~seepage (moderately limited) ~slope (moderately limited)	0.50  0.30	Limited ~slope (limited)	0.98	Limited ~slope (limited) ~droughty (limited)	0.98  0.63	Moderately limited ~slope (moderately limited) ~large stones (slightly limited)	0.30  0.15	Limited ~rooting depth (limited) ~droughty (limited) ~slope (moderately limited)	0.80  0.63  0.30
54: Dunning, frequently flooded-----	Not limited		Limited  ~flooding (limited) ~percs slowly (moderately limited)	0.90  0.39	Limited  ~flooding (limited) ~erodes easily (moderately limited) ~percs slowly (moderately limited)	0.90  0.60  0.39	Very limited  ~wetness (very limited) ~erodes easily (moderately limited)	1.00  0.60	Very limited  ~wetness (very limited) ~erodes easily (moderately limited)	1.00  0.60
55: Huntington, occasionally flooded-----	Moderately limited  ~seepage (moderately limited)	0.50	Moderately limited  ~flooding (moderately limited)	0.60	Moderately limited  ~flooding (moderately limited)	0.60	Not limited		Not limited	
61B: Hoberg-----	Moderately limited ~seepage (moderately limited) ~slope (slightly limited)	0.50  0.10	Moderately limited ~slope (moderately limited)	0.40	Moderately limited ~erodes easily (moderately limited) ~slope (moderately limited) ~droughty (slightly limited)	0.60  0.40  0.00	Moderately limited ~erodes easily (moderately limited) ~wetness (moderately limited) ~slope (slightly limited)	0.60  0.36  0.10	Limited ~rooting depth (limited) ~erodes easily (moderately limited) ~wetness (moderately limited)	0.80  0.60  0.36

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	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
76: Hepler, occasionally flooded-----	Moderately limited		Moderately limited		Moderately limited		Moderately limited		Moderately limited	
	~seepage (moderately limited)	0.50	~flooding (moderately limited)	0.60	~flooding (moderately limited)	0.60	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60
			~percs slowly (slightly limited)	0.13	~erodes easily (moderately limited)	0.60	~wetness (moderately limited)	0.44	~wetness (moderately limited)	0.44
					~percs slowly (slightly limited)	0.13				
81B: Tonti-----	Moderately limited		Moderately limited		Moderately limited		Moderately limited		Limited	
	~seepage (moderately limited)	0.50	~slope (moderately limited)	0.40	~erodes easily (moderately limited)	0.60	~erodes easily (moderately limited)	0.60	~rooting depth (limited)	0.80
	~slope (slightly limited)	0.10			~slope (moderately limited)	0.40	~wetness (moderately limited)	0.44	~erodes easily (moderately limited)	0.60
					~droughty (slightly limited)	0.01	~slope (slightly limited)	0.10	~wetness (moderately limited)	0.44
92A: Secesh, rarely flooded-----	Very limited		Very limited		Not limited		Slightly limited		Slightly limited	
	~seepage (very limited)	1.00	~large stones (very limited)	1.00			~large stones (slightly limited)	0.26	~large stones (slightly limited)	0.26
Cedargap, frequently flooded-----	Moderately limited		Limited		Limited		Slightly limited		Slightly limited	
	~seepage (moderately limited)	0.50	~flooding (limited)	0.90	~flooding (limited)	0.90	~large stones (slightly limited)	0.26	~large stones (slightly limited)	0.26
			~large stones (moderately limited)	0.43						

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	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
93B: Waben, rarely flooded-----	Very limited		Moderately limited		Moderately limited		Slightly limited		Slightly limited	
	~seepage (very limited)	1.00	~slope (moderately limited)	0.40	~slope (moderately limited)	0.40	~large stones (slightly limited)	0.15	~large stones (slightly limited)	0.15
	~slope (slightly limited)	0.10			~droughty (slightly limited)	0.01	~slope (slightly limited)	0.10	~slope (slightly limited)	0.10
									~droughty (slightly limited)	0.01
Cedargap, frequently flooded-----	Moderately limited		Limited		Limited		Moderately limited		Moderately limited	
	~seepage (moderately limited)	0.50	~flooding (limited) ~large stones (moderately limited)	0.90 0.43	~flooding (limited)	0.90	~large stones (moderately limited)	0.45	~large stones (moderately limited)	0.45
94: Dumps-----	Not rated		Not rated		Not rated		Not rated		Not rated	
Orthents-----	Not Rated		Not Rated		Not Rated		Not Rated		Not Rated	
			Not Rated		Not Rated Not Rated		Not Rated		Not Rated Not Rated	
96: Orthents-----	Not Rated		Not Rated		Not Rated		Not Rated		Not Rated	
			Not Rated		Not Rated Not Rated		Not Rated		Not Rated Not Rated	
Quarries-----	Not rated		Not rated		Not rated		Not rated		Not rated	
W: Water-----	Not rated		Not rated		Not rated		Not rated		Not rated	